DOCUMENT RESUME

ED 250 878 EC 171 115

AUTHOR Hilton, Alan, Ed.
TITLE Effective Practices and Services for the Severely Handicapped and the Autistic, 1983.
INSTITUTION Eastern Montana Coll., Billings.
PUB DATE 83
NOTE 27p.; Document contains extremely small print.
AVAILABLE FROM Montana Society for Autistic Citizens, 3125 Avenue F, Billings, MT 59102 ($2.50).
PUB TYPE Collected Works - Conference Proceedings (021)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Autism; Behavior Modification; *Curriculum Development; Discipline; Elementary Secondary Education; *Employment; *Intervention; Program Effectiveness; Punishment; Self Mutilation; *Severe Disabilities; Teaching Methods

ABSTRACT

The proceedings from a 1983 conference on severely handicapped and autistic persons are presented. Eight papers focus on research findings and on issues such as alternatives to punishment, employment opportunities, and curriculum content. The following papers are presented: "Employment Outlook for Severely Handicapped and Autistic" (P. Wehman); "What Should We Teach Severely Handicapped and Autistic" (J. Pierson); "Alternatives to Punishment: A Panel Discussion" (A. Hilton, D. Petersen, J. Pierson, and M. Carter); "The Effectiveness of Early Intervention: Mixed Reviews" (G. Casto); "Rate And Mastery Criteria with Severely Handicapped Learners" (C. Mason); "Self-Abuse, Self-Stimulatory Behavior Deceleration, Trial and Error" (K. McFadyean and D. Nelson); "Decelerating Abusive and Self-Stimulatory Behaviors While Simultaneously Accelerating 'On-Task' Behaviors" (J. Rammer and D. McCarthy); and "Accountability and Decision Making Using Single Subject Research Designs in Applied Settings" (A. Cossairt, J. Stellern, J. Jacobs, and M. Marlowe). (CL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

ED250878

EFFECTIVE PRACTICES AND SERVICES
for the
SEVERELY HANDICAPPED
and the
AUTISTIC

1983

Alan L. Hilton, Ed.D
Editor

Carol M. Anderson
Barbara Lawrence
Technical Editors

Published by
The Montana Society for Autistic Children and Adults
in cooperation with
Eastern Montana College
Billings, Montana

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Alan Hilton
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

EC 171115

TABLE OF CONTENTS

PREFACE 1

SECTION I - SPECIAL AND INVITED PRESENTATIONS

PAUL WEHMAN

Employment Outlook For Severely Handicapped and Autistic 2

JANET PIERSON

What Should We Teach Severely Handicapped and Autistic 5

ALAN HILTON, DAN PETERSEN, JANET PIERSON, MIKE CARTER

Alternatives To Punishment: A Panel Discussion 7

SECTION II - RESEARCH FINDINGS

GLENN CASTO

The Effectiveness of Early Intervention: Mixed Reviews 9

CHRISTINE Y. MASON

Rate And Mastery Criteria With Severely Handicapped Learners 11

KRIS MCFADYEAN, DORYNE NELSON

Self-Abuse, Self-Stimulatory Behavior Deceleration, Trial and Error 16

JAN RAMMER, DANIEL M. MCCARTHY

Decelerating Abusive and Self-Stimulatory Behaviors While Simultaneously Accelerating "On-Task" Behaviors 18

ACE COSSAIRT, JOHN STELLERN, JAMES JACOBS, MIKE MARLOWE

Accountability and Decision Making Using Single Subject Research Designs in Applied Settings 20

Preface

Effective Practices and Services for the Severely Handicapped and Autistic - 1983, Volume 2, is the second in what is hoped will be a continuing series of yearly monographs produced by Eastern Montana College and the Montana Society for Autistic Citizens. This monograph represents a combination of edited presentations and submitted papers which are presented at the Conference on the Severely Handicapped and Autistic held in Billings in March of 1983. Approximately fifty presentations and addresses were given at that time. The eight appearing in this monograph were revieved and selected for publication by editors who are faculty and staff members at Eastern Montana College. The selection was based upon applicability, content and quality.

It is hoped that these yearly publications will serve as reference materials for professionals and parents through out the state and region. As the conference grows in reputation, we are sure the quality and volume of the monograph will increase. Additional and/or future copies of the series may be obtained by contacting the Montana Association for Autistic Citizens.

Recognition needs to be made to those who helped prepare the manuscripts and to those who submitted manuscripts. A special thanks is given to Ms. Barbara Lawrence and to Ms. Carol Anderson for the efforts expended in preparation and technical editing.

BEST COPY AVAILABLE

"EMPLOYMENT OUTLOOK FOR SEVERELY HANDICAPPED

AND AUTISTIC: KEYNOTE ADDRESS"

Paul Wehman, Ph.D.

Virginia Commonwealth University

I would like to review where I think we're at right now as far as employment for moderately and severely handicapped people, and then share with you about a half-a-dozen topics or areas or issues which I think we really need to address if we're going to turn things around. Some of these events which have occurred in the last five to ten years, while in some ways are encouraging, are in other ways very discouraging.

As a background, just for about five years now, we've been attempting to achieve competitive employment for moderately and severely retarded people in Richmond, Virginia Beach, and Norfolk. The population that my remarks are being drawn from are essentially the group who largely range from between twenty-five and fifty-five years old. Generally speaking do not have any academic skills or minimal academic skills, are largely verbal, do not exhibit severe behavior problems and do not resist training. So, basically, we're talking about the trainable/retarded population. The comments and the points that I want to make, I'm quite sure generalize beyond that population. Also I want you to know that the experiences that we've had and some of the statements that I'm going to make, which may come across as fairly flat and almost harsh statements, are drawn from experience, that is five years of experience; over a hundred placements; the dealing with a large number of parents, counselors, teachers, administrators and employers.

Where are we in the employment picture? We asked ourselves that in 1977 and 1978 when we say that a lot of the people that we were interested in working with, that moderatley and severely retarded populations. A population which was either sitting at home, church basements, day programs, or were sitting in sheltered workshops, a group which never left sheltered settings.

After checking with the Department of Labor, we found out some figures which many of you may already be aware of. Most of you will probably not be. I think that when you hear some of these figures, you'll recognize where we really are in the vocational area. However, we're looking at 59% unemployment rate for handicapped people. If you examine the nation-wide unemployment figures of 10.4% or black teenagers 40-45%, you find everyone is very upset about these employment figures. You never hear statements of concern about the handicapped unemployment figures. Consider that, three out of every five handicapped individual is unemployed, I'm not just talking about moderate and severe. When we start talking moderate and severe, the numbers go up. Let's take a look at where most mentally handicapped people are in this country that are being served in day programs. We have 300,000 people in sheltered workshops and another 180,000 people in adult day programs which are activity-centered types of programs. The average wage-the average annual yearly wage for retarded people in sheltered workshops in this country is $414.00. That's $40.00 a month, with no benefits. The average for employees of workshops in Richmond might be $1,000.00, $1,250.00, whil on the other hand, it was $100.00 a year for the last five years in Charleston West Virginia. Parents finally said, "No, we just can't take this anymore" and they got a group of experts to come in, gratis, and began to make some changes which included pushing much more competitive employment.

If there are such problems with workshops, why do they exist? If you talk to rehabilitation people and you look back in the earlier years, what they will tell you is that sheltered workshops were never really meant to be terminal placements. They were meant to be transitional placements for people who would go for a period of time, receive work training, and then as they got better, or, in rehabilitation parlance, became work-adjusted, they would be able to move on and work in the community in an unsubsidized job. Does that actually happen? No, it does not happen. In fact, the figures are incredible. Those of you that are close to sheltered workshops probably are aware of these figures and could almost give them to me. Less than 12% of the people who are in sheltered workshops leave those places and go into competitive employment - less than one out of eight. So, if you have the poor fortune to walk out on the street this afternoon and get hit by a truck, you might be sent to a workshop, and you might not be leaving the workshop ever again. Because after two years of being in a workshop, the figures drop from 12% down to less than 3% of the people leaving sheltered workshops.

By the way, the purpose of this is not to condemn or devalue workshops. They're the only game in town. I know, some states are trying to skirt the workshops and set up independent units that are like placements units. I don't believe that we can do that. I think that the workshop unit, giving a continuum of services, is what we've got and what we've got to work with them. One other thing that I just found out. I received a document from the Social security Administration in Bethesda, Maryland. This document indicated that the mentally retarded are the largest recipients of social security disability income. Somebody, in their infinite wisdom at the Social Security Administration, decided that maybe they ought to take a look at competitive employment programs because that might be a good way to significantly reduce the disability income transfer payments that are going to retarded people. Consider the fact that right now you're talking about $225.00 to $250.00 a month for 12 months for 30 to 40 years for some people, and you can see where we are as far as the increasing, and expanding the debt

The last statistic comes from some checking we did in Vermont, in southern Illinois, and in Richmond, Virginia. We're finding from follow-up figures, that the unemployment rates are higher than ever. In Vermont, including EMR and TMR populations, we've found that the three years of graduates over the last period of 1978-1981 yielded a 76% unemployment rate. The whole rural area in Southern Illinois, Evansville, and Carbondale has a very similar figure. In Richmond, in our own schools, we have found 75% unemployment. We just initiated a program to teach cerebral palsied kids high technology skills, micrographics, and computers. As a start up to that particular project, we did a run-out of the last five years of cerebral palsy graduates, and we found that of the 19 that we could locate, 14 were unemployed and had never held a job. That's very disconcerting to me because either the adult service system is in woefully bad shape or the schools are not teaching things that are necessary and not providing the skills necessary for transition to jobs. So what we have is a generation of moderately and severely and profoundly handicapped people coming up that are going to be unemployed.

BEST COPY AVAILABLE

The picture is really gloomy. I told some folks yesterday that on alternating days, I feel very gloomy about where we are vocationally and that on other days I feel more upbeat. We have made some definite strides. We've learned that severely handicapped people can do complex vocational workshop skills. We're finding in our own employment project, and you know, they're finding here in the Billings project that moderately and severely retarded people can be competitively employed. So there are some nuggets of hope. It's just that the overall system is not responding sufficiently to what is known to be possible. And I would like to throw out about a half a dozen points, in the following discussion, for you to think about, that we need to do differently over the next seven to eight years.

Communications with Employers

Almost none of us are cognizant of business and industry, the way the employer thinks and the way business and industry works. The majority of people in this room that have college degrees got them in a non-business area. If that's the case, unless you've had a lot of jobs in the past in business and industry, you're probably not aware of the way co-workers, employers, personnel directors think and the way they look at the people they hire. It is crucial that we take the steps to understand business and industry. It is crucial! They will not come to us. We have to go to them. We have to ask questions. We have to try to get them on advisory committees. We have to communicate the reasons that our clients work well and how they can be beneficial to society. We've got to be positive and upbeat, and we have got to be very aggressive in this area. Just sitting, whining, hand-wringing and hoping that something will work out will do nothing to change present conditions. We are going to continue to have high unemployment figures and the poor access from sheltered workshop programs and other adult-aid programs in the community. So the first point is that we have to communicate more with business and industry. That means that we've got to get out and take a look at what the jobs are and meet with key people. You're talking about the National Alliance for Business, your state employment commissioner, the Chamber of Commerce. Make friends with some of these key people.

Functional Curriculum

The second issue, is a human service issue. We are teaching an incorrect curriculum. We're using inappropriate, incorrect curriculum, we're all guilty of it. That hurts. That really hurts. But it's really true. And I'm speaking to you from one who sees an awful lot of referrals that we get from the secondary programs and the adult programs. Our project, which we call Project Employability, is, in effect, stuck with people who have not received adequate training. We receive people who can walk on balance beams, who can put rings on a stick, that might know the letters of the alphabet, that maybe know colors, maybe know shapes, maybe some can hop on one foot or do some of the other types of activities that you see on developmental checklists, but those aren't the crucial skills that are necessary for employment. Our trainer-advocate staff, who does the work in the community as far as job-site training is concerned, paying the price for the fact that training has not been tied essentially to skills. How do we correct that problem? You know, we can spend a day or two on that. Let's just say this, books and other curriculum guides are not necessarily all the answers. We can only use those as resources. In order to identify what you should be teaching your clients, you need to look at what the work environment and the community environment requires. And when you get out there, and actually get out there, you'll find that knowing the letters of the alphabet and shapes and colors and some of the other little developmental tasks that are left over from two, three, and four year olds, you'll find teach skills that are not the highest on the priority list. So that's the second issue. We've got to look more carefully at the functionality of what we're teaching. Even more so than poor training techniques. We're teaching the wrong things.

Delivery System

The third issue is addressed to any of you who are administrators. The current delivery systems for sheltered workshops and adult-aid programs does not reinforce placement of people in competitive employment. What is reinforced is getting contracts so that you can pay your own way in your budget. So it does no good to really criticize the sheltered workshops, or, for that matter, the rehabilitation counselors or vocational evaluators who are writing loose evalutation. They're victims, in a sense, of the way the system is established. Now, some states have begun to make some changes in that area. They've begun to tie funding to the number of placements that a workshop or adult aid program makes. The incentives simply are not there in the current system, and we have to change that. Lobbying groups need to push for that. And that's not to say, again that we do away with sheltered workshops because I don't believe that everybody can work competitively. But a whole lot more can than are right now, and we've got to open the doors for those people.

Employment Alternatives

The fourth issue is to look at some interim-types of work alternatives. I've talked this afternoon about workshops and about competitive job placement. But there's an interim step. There are actually a couple of interim steps. We need to look at the possibility of job-sharing, we've got to look at the possibility of establishing sheltered enclaves. These groups of two, three, and four severely retarded people that do not have a good likelihood of working in an independent competitive employment job. These people can work on an on-going basis, under a supervisor in a job. We're turning to this alternative more and more and finding it to be very effective for the severely and profoundly retarded. It is a half-way step; a transition into competitive employment. We're finding that a number of people can be employed in janitorial contracts. We have made a number of federal contracts with the Post Office and the Navy. We find that there's enough money in there to pay four or five people $5.00 and $6.00 an hour and still pay a supervisor. Now, I'm talking about paid sheltered enclaves - paid sheltered enclaves. So we've got to look at some other alternatives. We should not just dichotomize into sheltered workshops or competitive employment. There is also nothing wrong with part-time jobs. Those of you that are working with 16, 17, 18, and 19 year olds should have access to part-time jobs just the way non-handicapped adolescents would. These part-time jobs very nicely lead into a full-time employment.

Requisite Skills

The fifth area that we have to look at is adapting the types of activities and the requirements that we place upon the clients that we work with. But if you're working on time-telling or other like skills that are acquired slowly, you need to look at what you can do that might adapt those skills. An example might be move to a digital watch, or loafers instead of tied shoes. There are numerous possibilities that are available so that the trainer prevents the exclusion of the individual from a competitive job. One of the reasons that more mentally retarded people are not working is that service providers like ourselves believe that the individuals don't have the requisite skills. We actually need to go out there and find out what the requisite skills are and what are the most important skills for a job. And then communicate those skills back to the workshop so that they can begin to establish some pre-employment efforts.

BEST COPY AVAILABLE

Early Training

Sixth point is addressed to those of you that are in the public school, business or who are teachers, we cannot begin work programs for 15 and 16 year olds. We have to begin much, much earlier. We've got to be looking at vocational and career education experiences at 7, 8, and 9 year olds, especially for autistic, moderately and severely handicappped, deaf-blind, and multiply handicapped. Public schools follow a general rule of thumb that the older a person gets, running up from 7 or 8 years old to 20 years old, progressively more time is spent on vocational education. And when the rule of thumb is followed, 11 to 14 year olds are provided with little or no vocational training at all. These same students at 16 to 19 years old are unable to sweep or mop or have any concept of work. Ultimately the poor adult service provider is required to take people that do not have any of these skills. We need to stress skills such as work ethic, basic skills and parent awareness at a much earlier age.

Parental Attitudes

The last point, and certainly not the least, is directed to parents along with transportation. Our biggest problem in making the 120 some odd placements that we've done over the last five years has been parents: Not the person's ability to work; not even the employer's and co-worker's vacillation; and not the social skill problems that can occur. This problem stems from the distrust and the concern of parents about what's going to happen to their son or daughter if they go into a real-world environment. Our very first placement, back in October, 1978, I can still remember sitting down with a woman who came to me with her son who was a 23 year old individual with Down's Syndrome. We rescued him from a church basement and we were talking to his mother and she was very skeptical, but she wanted the best thing possible for her son. He was not verbal, he exhibited stereotype behavior and he had experienced very little training. He was one of those people who had learned how to put rings on sticks and sort colors and things like that. And she said to me, "why should we believe in you, in fact, we've had all these other evaluations." Whenever we make a presentation, I like to show the evaluation that she showed me. Basically it was a highly exclusionary evaluation. It essentially said that he was a nice fellow, but he was never going to be able to work. Well, this particular woman trusted us, and it was with her son that we began what we call our trainer-advocate model, a work-support model of not just putting him out by himself but actually staying with him until he became competent, and then fading ourselves out. He's still working and doing a fantastic job. That particular scene has been repeated time and time again with parents. And that's the reason why I say that we need to start vocational programs early so that parents can begin to think more about work as a possibility and begin to have a thought in their minds that employment is a real-life practical possibility. That's the long-term solution. The short term solution, if you're dealing with a 27 year old individual that you want competitively employed and the mother or father or both are very concerned and uptight about such a goal is that you don't push. What you do is say, "Here's some literature, we'd like you to come along and take a look at some of the job sites where individuals with similar types of disabilities as your son or daughter are working. We'd like you to give it some further consideration." If they're living at home, you've got to have the support of that caretaker or that family. If we can get the person employed, then we really have to look at maintaining communication with parents. And that's what we do. We have a log that we keep with parents. We phone them, we stay in touch with them and let them know what's going on. If we don't, we'll run into the type of thing that happened about four years ago where a wonderfully nice lady of 69 years came out and helped her 35 year old Down's Syndrome son pick up trash at the University of Richmond. I got a call from the Personnel Director saying to me, "why is that old lady out there helping Ed pick up trash?" Well, she was just so concerned that he was not going to be able to get the job done or that people were going to take advantage of him, that she decided to come over on her own. Those are honest, legitimate concerns that parents have, and you cannot run rough-shod over them. We have to be receptive to them, and we have to communicate and educate parents.

Finally those of you who are going to get into the competitive employment business at all, be aware that the transportation and the parent situation are the two biggest roadblocks. Ironic, isn't it? It's not related to the skill of the individual or the job market, but you know, they're non-vocational problems.

Conclusions

So, where are we in reference to the future, especially with funding being the way it is? Within the next seventeen years, between now and the year 2000, things could get much better. I don't see marked changes in the next couple of years. Too many states, and legislators; these people do not understand yet nor place a high enough priority on competitive employment. The reason they don't is that they don't believe that the individuals we train with can do the work. And that's the bottom line, and that's why a demonstration project like the one that's going on here in Billings or in Richmond is crucial. Because we need demonstrations to show that moderately and severely retarded people can work competitively. The cost-benefit figures are compelling. This relatively small funded project in Montana, from everthing I can gather, has paid for itself. However, legislators are concerned too often with factors that are not related to service programs. They don't care how much money retarded people earn. They want to know what does it cost them as taxpayers to maintain somebody in a non-productive day program. So the answer really is to increase our competitive employment efforts. We have to have more demonstrations and prove its effectiveness before we can really communicate effectively with the media and legislators and see larger changes.

BEST COPY AVAILABLE

"WHAT SHOULD WE TEACH SEVERELY HANDICAPPED AUTISTIC STUDENTS:" KEYNOTE ADDRESS

Janet Pierson

University of Northern Colorado, Greeley, Colorado

Special education teachers work with severe and profoundly handicapped students to help them develop independence. Teachers find frustration in the direction they've selected. The failures administrators and staff have experienced are significant. As you know, 95% of autistic people are living in institutions. this seems sad, and although it may not sit well with you it is a fact.

It has been suggested that there are a number of reasons why this is the case. One of the reasons is the focus of what we teach. Many teachers have spent a lot of time teaching handicapped people many things that are non-functional, and very age inappropriate. I'm going to discuss teaching age appropriate skills, and I also added the word functional because the skills we have selected are very functional. It is inappropriate for teachers to require students to perform non-functional tasks often found in developmental scales. What we have to do is jump out of bed, take a shower, put our clothes on, wash our face, eat breakfast and get out of the house, and those are the skills we must perform as functioning, independent human beings. And that's the direction we need to lead handicapped individuals.

What is appropriate and functional for children is not always appropriate and functional for adults or adolescents. Think of the non-handicapped population, children engage in some of the same things that adults do, they dress themselves, they do some cooking, and so forth, but of course adults have to do a whole lot more, and they have more responsibilities. For children I would say that it is appropriate to teach them to play games of all kinds, and that's what we do at school, we teach them games such as, "Ring-around-the rosie," "London bridge," and a variety of others. That is acceptable, we teach them how to sing, we teach them how to interact with one another, and we teach them motor skills, and we teach them communication. Children use such things as dolls, blocks, playhouses, and little plastic records, and what is functional depends on the environment. The problem is educators and trainers follow this normal child development model. For example there are several day programs for adults of severe handicap in Colorado, what they teach the adults to do is sing, that's not age appropriate, nor very functional. If they were five years old that might be all right, but when the person is 35 years old, such an approach does not help severely handicapped individuals function in the world.

I would suggest that as the age of the individual increases the time span in the school room ought to decrease. Now I'm a special educator, and I want my students in school every minute I can get them there, but I don't necessarily want them in the school room. When someone is six, seven, eight years old, and they have 10 plus years in school ahead of them. They probably initially need to know how to stand in line without self-stimming, clapping, and how to sit quietly in a group for a certain amount of time, they need to get skills to help them function in the school environment. But when students start getting up to 12, 13 or 14 years of age it is time they go to school a very short time. Teachers have to start looking at what's beyond the school setting. What are those subsequent environments that person will be required to function in? It is not school. I'm suggesting that we need to teach age appropriate skills and functional skills. When we're looking at what to teach we always want to talk to the parents. We want to know what skills the parents feel are important, what skills they feel they can support and train at home. The name of the game is functional and age appropriate skills.

About a year ago I was studying for my comprehension exams, I thought it would be a good idea to read some books by my advisor to make sure I'd pass. He stated that when you're working with mental handicapped, you must attend to the mental age, and ignore the chronological age. I did a double-take at that. In the group home I am in charge of the peoples mental age averages five years old. If I was teaching at their mental age then I would be teaching them to sing, to play games, because that's where they are mentally, however, physically they are from 22-35 years old, sexually they are adults, they have adult needs. It would be a disservice to them if I was to teach them things appropriate for little children. People in our society need to accept the severely handicapped and autistic in the community. When private citizens see them doing nothing but singing, playing with dolls, or doings things like little children, the natural response is that they are retarded, and are not capable of doing things like other people. It's chronological age appropriate, not mental age appropriate, and functional skills. I must tell you there are people around who would disagree with this, they feel severely handicapped and autistic people are children at heart and we should teach them like children are taught. I feel this type of thinking is one reason why so many of the population live in institutions.

I want our students to progress as far as they can, academics are great, but lets make them functional. For example, learning how to read stop, men, women, danger or employees only are very functional skills. There are a whole variety of words that I think are important for this population to read, especially if they're going to function out there in the dangerous world called the community.

A woman friend of mine has two severely handicapped sons, and those two boys are going to go through the first grade curriculum if it kills all three of them. There is just no two ways about it. Now the one young man is 16 years old, the other is 17. They don't have community skills, they run around in the streets, they go to the store, they shove the basket into the shelf, but their mother has decided they should be able to read Dick and Jane. I would have no problem with that, if they can also function on the street and take care of their own personal needs, but lets prioritize, lets say, "What's important for these people?"

You want the things you teach to be functional, not artificial, so when we want to teach sorting tasks, do we really have to use pegs in a peg board? No, there are a lot of other ways to teach that. Coins in a machine, and other. We want to teach in natural environments. The domains of school, vocational, domestic, recreation and leisure, and in the general community need to be addressed.

BEST COPY AVAILABLE

I would like to talk about the domestic areas specifically. There are a variety of skills our students need to learn, and as teachers we have to decide how will we teach in this domain? I have a friend who teaches in Boulder, she wanted to teach them how to make a bed, do dishes, and so forth. There's a group home not to far from the school, and all the students from the group home are gone to school in the day time, so this teacher worked it out with the director of the group home to perform many of these domestic tasks in the group home. A certain number of times per week they ride out to the group home, and in the group home they learn how to make beds, to do the dishes, to clean, etc. I know teachers who have brought beds into their classroom, which is good, but probably not as good as actually going into a home. Just because you are in a classroom, does not mean that you can not teach domestic skills.

We need to teach our people how to cook a meal, but we also need to teach how to clear a table, wipe the table off, and after that how to vacuum the area. We need to teach our students how to take care of their personal needs, choose clothing, and general clothing care.

The development of recreation and leisure skills are difficult but not impossible. For our adults we need to develop alternative activities. One of our young men loved to sew. Somehow along the line he fingured out what he'd have to do to sew, is to rip, so he ripped, five to six shirts a day, plus other people's shirts. Eventually we got a contract to reconstruct clothes from the Association for Retarded Citizens, he really likes to sew, so we have him sew.

Vocational skills are also important. Of course we care about human development and growth. We feel like if we can domonstrate that our people are competent, let the public know that they are costing them less now, we can maintain them successfully in the community. For example, some of our clients are able to make curcuit boards. Now that is a skill that requires visual ability, it requires fine motor ability. It is a skill that not all of us want to do, but some our our clients actually enjoy it.

I think there are some vocational areas that are unexplored. Our group home is involved in jewelry making. After looking into it a bit, we found that some jewelry the markup is 200 to 400 percent. You are talking about a high profit and it is incredibly simple work. What you do is order the jewelry with no stones, and then order what kind of stones, snap them in, and package them up.

Another direction we are exploring is our students making juice in a commercial juicer, and selling it for profit. We develop activities for our people that are profit making. This approach too often has been forgotten when defining vocational experiences for more involved individuals. Traditionally, we have students doing janitoral work. Where I used to go to school, at the University of Colorado, in Boulder, most of the people clearing tables were mentally retarded. They were not autistic, however, I think with a little experimentation we can determine what kinds of jobs people with autism can do, and what they can't. An example of this was demonstrated by two professionals who taught a crew of autistic people to clean rooms at the Ramada Inn as a crew. The step-by-step sequence was always the same, and those people were very compulsive, the clients had to have everything the same, in the same order. Because all the rooms in the Ramada Inn were just the same, the crew was very successful. With careful selection and modifications, the autistic can be employed.

We as advocates, as teachers, as parents, as social workers, speech therapists, need to look very hard at what useful, productive jobs are clients do.

In conclusion, let me ask you, if the student doesn't perform a skill will someone else have to do it for them? Will somebody else have to dress them? Will somebody else have to do the dishes? The answer too often is yes. We have our students in school, please lets not waste their time, by getting into the contrived training situations. Further, lets select skills which are age appropriate and will make the students functional adults. We need to address the areas of home, work and the community when we select skills our students need and finally we need to spend an increasing amount of time outside the classroom.

BEST COPY AVAILABLE

"ALTERNATIVES TO PUNISHMENT: A PANEL DISCUSSION"

Alan Hilton, Ed.D, Eastern Montana College; Dan Petersen, Ph.D. Eastern Montana College;

Janet Peirson, University of Northern Colorado; and Mike Carter, UCLA

Over the last 150 years, it was often assumed that if the retarded, the severely handicapped, the mentally deficent exhibited maladaptive behavior and/or aggressive behavior, they should be committed to an institutional setting. However, in the last 20 years, a sufficient technology of behavioral change has developed allowing a variety of alternatives to institutional committment. This technology is based upon the premise that maladaptive and aggressive behavior is learned and that depending on the kinds of consequences that occur, we can change those behaviors and teach new acceptable ways of behaving. A life sentence to an institution need no longer be the only option for these people.

However, out of this technology for behavior change and concurrent with its success, has come an ethical concern for a constraint of the use of punishment techniques. The purpose of this discussion is to differentiate punishment procedures from reinforcement related behavior reduction, and to suggest the merit of the reinforcement related procedures as primary intervention procedures.

There are three different categories or techniques that one could use with maladaptive behavior. We can use reinforcement related reduction procedures, punishment procedures, or chemical interventions. The first procedure, the use of reinforcement related reduction procedures, appears to be inconsistent with reducing or eliminating maladaptive behavior. It seems inconsistent to some individuals to talk about reinforcement which is supposed to strengthen behavior, when the object is to reduce the rate of behavior. But that inconsistency is not valid. Basically we are talking about using reinforcement procedures that would increase alternative more appropriate behavior under the same stimulus conditions, while terminating the positive consequences to maladaptive behavior. In this manner it is possible to strengthen a response that is appropriate and possibly incompatible with the maladaptive behavior. The reinforcers are offered for being appropriate only. The maladaptive response undergoes the process of extinction.

At this point it is appropriate to describe punishment and how it differs from the reinforcement related reduction procedures. Punishment can be divided into two categories: positive and negative punishment. It's either the application of something aversive (positive punishment) or it's the withdrawal of something positive from the individual (negative punishment). In both cases the manipulation of a consequence results in the rate of target behavior decreasing. Some examples might be helpful to illustrate the two categories. Positive punishment is the delivery of something that is aversive, this might involve a hand-slap to a child, or requiring a child to engage in overcorrection procedures (e.g. standup - sit down 10 times and continue to do that every time a behavior occurs, as the consequence for the child's performance of a maladaptive response). Negative punishment procedures are those which involved taking something away from the individual that is positive or something the individual enjoys doing or having. Response Cost is a negative punishment procedure which involves taking away some previous earned reinforcer contingent upon an undesirable behavior. Examples of response cost include taking away tokens or points, taking away some privilege that the child has earned during the day. Those are roughly the two categories of punishment procedures.

There is a third category of events we could use to control maladaptive behavior, and this is chemotherapy. For purpose of the discussion, a description of chemical restraint or treatment procedures will not be included. It is probably sufficient to say that drugs are effective at supressing behavior. Usually long term maintenance on the drug is required and often undesirable side effects are encountered. Additionally, treatment by chemical means to suppress maladaptive responses that have been learned results in a generalized suppression of a variety of behaviors both desirable and undesirable.

It is my assumption that the use of drugs is only something that should be done when everything else has been tried or as a means of temporary control until an effective behavioral intervention program can be instituted. Chemical suppression should be used as the very, very last resort. The major argument being that if we can teach new behaviors, instead of suppressing old behaviors, you're much better off and so is the client.

Problems With Punishment

The ethics of punishment need to be talked about. Punishment procedures have some side effects. One side effect is an increase in affective or emotional responding. An individual is likely to exhibit some responses that might be characterized as pain or sorrow. For example, they might say, "I hate you," and exhibit corresponding behaviors towards you. Punishment also produces a high degree of stimulus control. It is only effective under those conditions in which it is employed, or in the presence of those individuals who employ it. If the person who punishes that individual, and leaves the set situation in which they are responding, the maladaptive response will likely return. The punisher would have required stimulus control over the behavior. In that persons presence, the behavior is suppressed. The person administering the punishment becomes associated with the delivery of the punisher. Parallel to that, the physical environment may acquire the same stimulus control such that when the client moves to another environment, the maladaptive response may return. Punishment, then, is only likely to suppress the target behavior under the specific conditions it is delivered.

There is another concern which is the modeling or imitation effect. If a trainer engages in the use of punishment and the client he/she is working with observes that, they see that it's a vital means of control and they may imitate that behavior. There's the possibility of imitation of the use of aversive. In almost all cases this is undesirable.

Finally the use of punishment may lead to avoidance of the trainer, the person who is delivering the aversives. Since the trainer is paired with the aversive consequences that are being delivered, the client will be less likely to respond to that person as a possible reinforcer. This also would diminish the instructional effectiveness of the trainer. There are some other side effects of punishment but these appear to be the major side effects.

BEST COPY AVAILABLE

Reinforcement Techniques

It is appropriate now to discuss the alternative behavior change techniques to punishment. The first of these is differential reinforcement of incompatible behavior (DRI). Lets say a child is biting her hand, you want to change that person's behavior by teaching something that is incompatible with the undesired behavior. In this case an incompatible behavior to hand biting would be hand clapping. When the child claps his hands you heavily reinforce that behavior. A child clapping their hands cannot be biting her hand at the same time. The main purpose is to have reinforcement available only for the incompatible behavior. All reinforcers for the undesirable response are stopped and an extinction process occurs. Reinforcement is still available, but only for the performance of the incompatible or desired responses. By reinforcing other behaviors, rather than reinforcing the undesirable behaviors, the client will engage in more appropriate activities such as hand clapping.

Another technique is differential reinforcement for other behaviors (DRO). Lets say the child is engaged in biting his hand at a very high rate, and he will not clap or engage in some other incompatible behavior. What you might do then is heavily reinforce any other behavior that the student has in his repertoire. This may include any behavior other than the undesirable behavior. Technically, DRO involves the delivery of a reinforcer contingent upon any behavior other than the undesirable behavior after a set period of time has elapsed during which the client refrained from engaging in the undesirable behavior. Initially, and of utmost importance, the interval chosen as a set period of time should be smaller than the average duration between episodes of the undesirable behavior. Reinforcement in the DRO schedule will then be denser and more desirable to the client than receiving reinforcement under the schedule controlling the undesirable behavior. In this way it is to the client's advantage to perform on the DRO schedule of reinforcement rather than on those contingencies that have maintained undesirable response. DRO is a very effective procedure that is very well documented in the literature.

Another reinforcement related reduction procedure is differential reinforcement of low rate behavior (DRL). With this procedure you reinforce selectively the rate of performance of the target response across time. If the rate is too high, reinforcement is not delivered (extinction) but if the rate is below a set criterion you do reinforce the child. The procedure allows the rate of performance of the target response to come under the control of the trainers consequences. Over time the level of performance required to receive reinforcement can be lowered until the rate is acceptable or allowable. The procedure doesn't eradicate the behavior, rather it lowers the rate of behavior. Therefore, it should be used with very high rate behaviors, particularly those behaviors which are inappropriate because they happen so often.

Another method is instructional control. It's really important to establish instructional control. If you do that, then you have a better chance of getting a person to do something you have requested of them. To do this, give the student instructions in something that you're pretty sure the student will be able to comply with and reinforce all instances of compliance. The client will get into the habit of following your instructions. Make sure you're within close range when asking the client to comply, that she can hear your requests. Instructional control procedures build compliant responses (appropriate behavior when requested) as an alternative to punishment. An example comes from a classroom setting which contained a boy who sucked his thumb. What the teacher had been doing was yelling, "No, no," to him with a very loud, and stearn voice. The boy was very startled and within seconds after that procedure, someone in the classroom was either bitten or pinched. So instructional control was used to get him into the habit of following the instruction of giving his hand to the teacher upon request. A small prompt was given for the student to give his hand to the teacher, and he would do so without a big power struggle, and no one was bitten or pinched. Instructional control truely is a method you can use as an alternative to punishment.

Summary

Unacceptable or maladaptive behaviors are learned behaviors, and we have to keep remembering that they were learned, and for learning to take place, somehow they had to be reinforced. This means that someone (or something) in the environment was and is paying the client off for performing a behavior. Therefore, reinforcement becomes a critical issue in teaching new or acceptable ways of behaving. Reinforcement is not an M & M, it may be an M & M, but reinforcement is not defined by the fact that it's an edible or it's a social reinforcement. Reinforcement is defined by the child or the client, and most of us have forgotten that. Classrooms and training centers have forgotten the importance of the concept and how it relates to changing behavior.

The trainer doesn't define reinforcement, the student does. The only way that you know something is reinforcing is if it increases or maintains the rate of behavior it follows. If we're seeing self-abuse in a classroom, we must recognize that the behavior is being reinforced. There are a number of ways things can be reinforcing. One is through attention, another is through the ability of the individual to escape an aversive situation, and a third may be that the act is rewarding in itself. Any of these might control a maladaptive response. The intervention of choice should in the majority of cases be reinforcement related procedures. The use of such an approach allows the teaching of one behavior while reducing or eliminating another. In this manner, the teacher, parent or trainer may concentrate on the growth of the individual rather than on the reduction of behaviors.

BEST COPY AVAILABLE

"The Effectiveness of Early Intervention:

Mixed Reviews"

Glenn Casto, Director, Exceptional Child Center

Utah State University, Logan, Utah

As primary research articles investigating the effectiveness of early intervention programs for handicapped preschoolers have accumulated, practitioners and policy makers have increasingly called for an effective integration of the knowledge being produced. Ideally, the results of both basic and applied research on a given topic, such as early intervention, should culminate in increased knowledge and improved practice. In reality, however, the very important step of integrating the findings of research on the effectiveness of early intervention into conclusions which affect practice and influence policy has not occurred. Thus, the research concerning the benefits and effectiveness of early intervention have not been conclusively validated to this date.

In an attempt to draw conclusions about the effectiveness of early intervention, the Early Intervention Research Institute (EIRI) at Utah State University is undertaking a meta-analysis of the primary research articles in early intervention. The purpose of the meta-analysis is to analyze existing studies, determine conclusions and to identify existing gaps and controversial areas in previous research. EIRI staff will then be able to plan a systematic and comprehensive program of research which will address the important issues of early intervention with handicapped children.

As part of the meta-analysis task, EIRI staff members reviewed and coded 73 review articles from the field of early intervention during 1982. Only articles meeting one of the following criteria were included: (a) "review" was in the title, (b) the review cited 35 or more studies, even though the primary purpose of the article was to report original research, (c) the article reviewed 10 or more articles and major purpose was not to report primary research, or (d) the authors referred to the article as a "review" in the text.

The 73 articles were then coded so that information could be collected as to the populations addressed, how the authors located and delimited the studies used in the reviews, the number of experimental studies quoted in the reviews, statistical procedures used to represent results of individual studies, how reviewers considered data regarding the covariance of concomitant variables with outcomes, variables which reviewers identified as affecting the results of early intervention studies, methodological weaknesses in the articles reviewed, and the general findings of the review.

Methods

The information from coded review articles was summarized according to reviewers' conclusions about effectiveness. These conclusions included general opinions of the effectiveness of early intervention, including various child outcomes (cognitive, motor, language, socio-emotional) and the impact of early intervention on parents, siblings, and communities.

Table 1 contains a summary of previous conclusions concerning the effectiveness of early intervention. As may be seen from the table, reviewers drew somewhat different conclusions from the studies they reviewed.

Table 1 verifies that although the majority of the conclusions support the efficacy of early intervention, a significant number of reviewers (25) raised questions about the short- and long-term effectiveness of these programs.

Discussion

The conclusions drawn about the effectiveness of early intervention are somewhat contradictory and positive conclusions are matched by negative ones. For example, 13 reviewers held that early intervention programs were effective across a variety of handicapping conditions and five reviewers concluded that gains made can be maintained over time. Conversely, four reviewers held that the evidence is not robust enough to suggest that early intervention is effective, and 15 reviewers concluded that follow-up studies with school-aged children have demonstrated disappointing long-term results. It almost seems as if there are enough discrepant conclusions in the review literature to cast doubts on the credibility of reviewers. It is, however, not the credibility of reviewers which should be questioned, but the methods used by many reviewers to conduct literature reviews.

Typically, reviews suffer from some of the same methodological weaknesses that plague primary research studies. If the criteria proposed by Jackson (1980) are utilized to judge reviews, most review articles do not meet enough of these criteria to be classified as high-quality reviews. First, reviewers delimit the sample of articles to be chosen by convenience more often than not. Second, reviewers many times aggregate researchers' conclusions without considering the quality of the primary research. Third, when reviewers choose only those articles which meet traditional standards for high-quality research, they may overlook studies which are equally important.

Reviews can serve as important function in research. What is needed are review techniques which meet the same standards that high-quality primary research studies meet. When reviewers meet these standards, definitive conclusions about the effectiveness of early intervention will emerge, as well as findings which point the way for a program of new research.

References

Jackson, G.B., Methods for integrative review. Review of Educational Research, 1980, 50, (3), 438-460.

BEST COPY AVAILABLE

Table 1

Summary of Reviewers' Conclusions About Outcome Variables

Variable	Number of Reviewers Citing	Conclusions	Number of Reviewers Drawing Conclusions
General Effectiveness	17	Early intervention programs have proved effective with a variety of moderate/severe handicapping conditions and the earlier the intervention the better.	13
		The evidence is not robust enough for researchers to conclude that early intervention is a necessary or sufficient or clearly worthwhile enterprise. In other words, it is not bad enough to discard or good enough to expand.	4
Longitudinal Assessment	6	Gains made through early intervention can be maintained.	5
		Contradictory results exist on the permanency of chance and long-term maintenance is an unanswered question.	3
		Studies which conducted school age follow up uniformly reported disappointing long-term results with gains in early intervention eroding rapidly.	15
Social Growth	5	Children in early intervention programs demonstrate superior social skills development.	3
Cognitive Development	4	Early intervention leads to substantial gains in I.Q.	11
Achievement Tests	4	Early intervention programs have a positive effect on standardized achievement test scores.	9
Emotional Growth	3	Early intervention has a positive impact on self-concept, self-confidence, and other types of emotional and attitudinal variables.	7
Parent/Sibling Gains	2	Early intervention has had a positive impact on parental behaviors and attitudes.	7
		Effective early intervention enhances the functionings of the entire family, including siblings of the children in intervention.	5
Special Education/Retention	2	Children who receive early intervention are placed in special education programs less often than controls.	5
		Children in early intervention programs are less likely to be retained or repeat grades than control children.	3
Language Development	2	Early intervention helps children to reduce linguistic problems and assists in language development.	3
Community Involvement		Early intervention has had positive impacts on community involvement, understanding of the handicapped, and a decrease in violence in areas where interventions have been conducted.	3

BEST COPY AVAILABLE

"RATE AND MASTERY CRITERIA

WITH SEVERELY HANDICAPPED LEARNERS"

Christine Y. Mason, Ph.D., Eastern Montana College, Billings, Mt.

This paper is based upon research I began in 1972 with moderately, severely and multiply handicapped students aged three to nine at a special education center in Kirkland, Washington. The paper also incorporates information gleaned from several special education Precision Teaching projects throughout the country including: The University of Washington, The Great Falls Precision Teaching Project, The Norfolk Project with Early Education, Beatrice Barrett's research out of Boston, and data collected by various students of mine in various locations throughout the past eight years.

There are several important goals with the topic of rate and mastery criteria. First is to discuss current use of some alternatives to rate criteria. The second is to try to present a convincing rationale for the need to collect more rate data with moderately and severely handicapped learners. Third is to share what we have learned thus far about rate criteria and learning for this population. A fourth is to arouse your curiousity to the point that some of you will begin collecting rate data. Fifth is to help pinpoint some areas where it may be most essential to examine rate.

Commonly Used Evaluation Systems

Let us begin with the Fredericks' model out of the Teaching Research Center at Monmouth, Oregon (1975). That model essentially represents a task analysis/ten trial approach. With that model, a subtask is presented for ten trials and data are recorded. For example, if the task is 'putting blocks in a can,' the child may be required to place ten blocks in a can with 100% mastery for three consecutive days before going on to the next task.

Difficulties sometimes arise when the child becomes bored with the task and does not demonstrate an acquired skill, this is sometimes referred to as noncompliance. Another difficulty may arise when the criteria are not quite stringent enough and the person completes the task very slowly. Many times the fallacy of the 'slow but accurate' approach may not be realized until several steps later when the person has difficulty with a higher level task. Another concern with such a system is that instruction may become 'stilted' and unnatural with ten repetitions of some tasks. For schoolaged children repetition and practice at a desk appears quite normal. With preschoolers, however, multiple presentations do not approximate conditions for normal preschool children. For example, toddlers may typically start to stack rings on a stacking peg and then be diverted to playing with a doll, stacking blocks or playing with a mechanical toy. The attention span of such youngsters is not such that they typically will repeat actions in a systematic way before proceeding to a different activity.

The following suggestions for employing the trials to criterion approach are that you: (1) determine realistic criteria to fit the task (9 out of 10 trials is not always appropriate); (2) if possible, observe normal children who have mastered the task and determine 'how long' they typically spend with a task, how many repetitions of an activity for the particular age group and, (4) add a 'rate' or speed component to the criteria if needed. At times rote drill and practice, even though they may appear stilted, will lead to the fastest growth. In these instances, the trials to criterion approach my be the most efficient data system and may be utilized to good advantage.

A recent modification of the ten trial's approach comes from Brown, Holvet, Guess, and Mulligan (1980) which discussed this strategy, termed a "functional skills sequencing approach." This approach is designed to measure skills of preschoolers using a more environmentally 'normal' model for that age group. For example, rather than seating preschoolers at a desk and requiring ten trials of a skill demonstration, the environment is structured so that children move more naturally in the environment and stay with tasks as they normally would at that preschool age; which, if you have watched toddlers, may mean a couple trials of building blocks followed by a couple of trials dressing a doll The data form presented in Figure 1 demonstrated how three to five tasks can be programmed for the data collected using this system with four children. The approach might require that an object first be localized. The teacher says "look at this," and then an object permanence task is presented: the teacher hides the object and asks "where is it?" The two pieces of data are then recorded as in Figure 1.

The approach could be that the child walks into the classroom, takes off his/her coat, practices walking to a language area, practices greeting teacher and engaging in conversation and then practices walking to play area and practices building towers three times, then practices walking to another area . . . etc. The strengths in this approach are: (1) it probably is more natural and (2) there is less chance for boredom complicating data analysis and program decision making.

Other alternatives to rate criteria are also demonstrated by forms used by the Great Falls Precision Teaching Project to record monthly progress; these are summary sheets. Note that sometimes the criteria are labeled in terms of percent correct or accuracy and sometimes in terms of duration as in case of "complete repetitious tasks for 5 minutes." With the Great Falls procedures monthly scores are recorded and then charted on a three cycle form so that lines of progress can be determined and progress evaluated throughout the course of the year by quick visual scanning of the summarized data (see Figures 2 and 3).

All the systems presented so far represent fairly straight-forward data collection. In all cases a task is presented and correct and error performances are recorded. Sometimes levels of assistance of prompting are also recorded. Such information as gestural prompting, verbal prompting and physical assistance can also easily be recorded with forms such as those presented in Figure 1.

BEST COPY AVAILABLE

Figure 1

TRAINER: M. W. CHARTER: D. G.

AMBER	11-6	11-6	11-6	TOTAL	11-7
LOCALIZE	+	−	+	2/3	
LOOK AT THIS	+	+	+	3/3	
OBJ. PERM.	P	P	PA	0/3	

AMY	11-6	11-6	11-6	TOTAL	11-7
LOCALIZE	−	−	−	0/3	
LOOK AT THIS	+	−	−	1/3	
OBJ. PERM.	PA	PA	D	0/3	

DIRT	ABSENT →				11-7
HANDS IN LAP					
POUR					
SIGN DRINK					
HANDS IN LAP					
SIGN EAT					

SCOT	11-6	11-6	11-6	TOTAL	11-7
HEAD UP	V	D	V	2/3	
LOOK at (feet)	D	P	P	0/3	
TOUCH W. LEFT	V	V	V	3/3	
SAY (Name)	+	−	+	2/3	

SCORING CODE: + = correct
− = incorrect

V = verbal
D = demonstration
P = prompt
PA = Physical assist

Fig. 1 Functional Skill Sequencing Record for Four Students (Brown et al. 1980, p. 22)

BEST COPY AVAILABLE

Figure 2

R-73
6-9-82

MONTHLY PERFORMANCE REPORT

TEACHER NAME S. - Halverson PROGRAM UNIT # / 0/ 0/ 0/ 6/ 9/

PUPIL'S NAME [redacted] Preschool- Autistic BD 3:28 F - 5 yr. of age

PUPIL'S INITIALS /J/L/W/ DOB /0/3/-/0/1/-/7/8/
(f = 1)

	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
1. Goal Name Language 5 steps Goal # /1/2/5/0/0/0/1/ Version / / / ST☒ NST☐	20	20							
2. Goal Name Reading 5 steps Goal # /1/4/4/1/0/0/0/ Version / / / ST☒ NST☐	0	10	20	CHRISTMAS	40	40			
3. Goal Name Writing 7 steps Goal # /1/6/0/0/0/0/ Version / / / ST☒ NST☐	14	28	42		56	70			
4. Goal Name Goal # / / / / / / / Version / / / ST☐ NST☐									
5. Goal Name Goal # / / / / / / / Version / / / ST☐ NST☐									

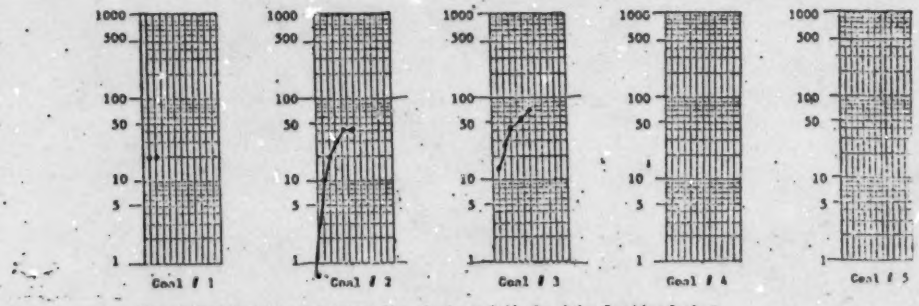


Fig. 2 Monthly Performance Record from the Great Falls Precision Teaching Project

Figure 3

R-73
6-9-82

MONTHLY PERFORMANCE REPORT

TEACHER NAME L. Pipinich PROGRAM UNIT # / / / / / /

PUPIL'S NAME C [redacted] Autistic, mr. Size was 11 yr.

PUPIL'S INITIALS /C/T/D/ DOB /0/9/-/1/7/-/7/2/
(f = 1)

	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
1. Goal Name Sort objects by size Goal # /4/1/0/0/3/5/ Version /0/1/ ST☒ NST☐			50%	80%					
2. Goal Name Cooperative Task with 2 persons Goal # /7/0/2/0/2/2/ Version /0/1/ ST☒ NST☐			20%	75%		50%			
3. Goal Name Completes repetitive task for 5 minutes Goal # /7/0/1/0/9/1/ Version /0/2/ ST☐ NST☒			1 min	2 min		2 min			
4. Goal Name Goal # / / / / / / / Version / / / ST☐ NST☐									
5. Goal Name Goal # / / / / / / / Version / / / ST☐ NST☐									

BEST COPY AVAILABLE

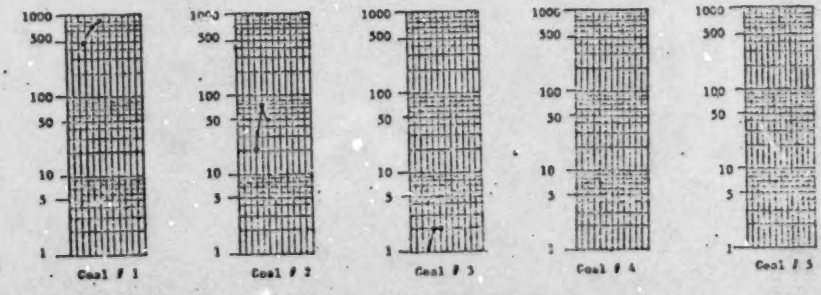


Fig. 3 Monthly Performance record from the Great Falls Precision Teaching Project

Physical assistance involves the most help from the teacher and should be reserved for times when verbal or gestural assistance are insufficient. An example of physical assistance: if for bathing the student does not lather the washcloth with soap and if a verbal or gestural prompt does not work, then the teacher would take the individual's hand, pick up the soap and lather the washcloth.

Gestural assistance involves demonstrating the behavior for the student or using gestures to cue the student to begin a particular motion. An example of gestural prompt is to point to the soap and washcloth.

Verbal prompts involve the teacher using one or two words to cue a response. For example, with lathering the cloth, the trainer might say "soap" or "put soap on washcloth." Verbal prompts should be kept as short as possible, although some recent discussions indicate an advantage to also incorporating verbal prompts into conversational speech, concentrating then, not so much upon "short" prompts as upon embedded prompts.

All three systems of prompting can be recorded as "G,P,V" or according to a numbered system with numbers representing the level of prompts. In reviewing the data collected, if the level of prompts remains fairly high, then it may be necessary to revise the program. Our experience suggests that the number of prompts given each session should decrease over a period of about one and a half weeks. If the number of prompts does not decrease, then the trainer needs to consider (1) changing to an easier or prerequisite task, (2) increasing the reinforcer, (3) waiting longer before giving the prompts, (4) giving a reminder such as "today remember to wash your ears" before the task begins, (5) alternative teaching procedures, or (6) abandoning the task.

Some levels of assistance data systems record variation of the three basic prompting conditions. A brief description of these variations follows:

(1) Record all prompts simply as "prompts", or

(2) Delineate the level of assistance within the physical, gestural and verbal categories. This is most often accomplished through the use of a ranking system in which a number is assigned to the level of prompt given.

The most commonly used system for data monitoring with moderately and severely handicapped is probably levels of assistance data. Discussions with teachers indicate that this system may be preferred because it allows data to be collected and charted at the same time.

The Critical Variable

If the critical variable is correctness, then precise recording of the specific levels of assistance administered is not necessary. However, if the critical variable is level of independence for various tasks, then measurement of prompt level is essential.

Why else would educators wish to record level prompts?

(1) To insure growth under various prompting conditions.
(2) To attempt to determine when to move from one prompt level to another, and then to monitor whether or not it would be wiser to return to another prompting condition,
(3) To make data based decisions. With the Frederick system (1975) and other systems which identify the level of prompt used, the procedures for moving onto a new skill in the task hierarchy vary, usually between 80-100% accuracy at the independent level.

As White has pointed out (1982), "levels of dependence" data have little relevance for day to day programs. The hierarchy from verbal to gestural prompts is unclear; it appears that for some tasks verbal prompts give more assistance and for other tasks gestural are of more assistance. Of course, the hierarchy also varies between individuals; so that the programming decisions based upon levels of assistance data depend upon inter and intra individual differences, as well as task differences.

Rate Data Systems

In contrast to the other frequently used systems as reported by Billingsley and Liberty (1982) collection of rate data is sometimes viewed as a cumbersome process. Teachers may have to have stopwatch in hand, and clipboard and pencil with them and manipulate instructional materials at the same time. If physical prompts are needed it can take some practice to master the skill of collecting rate data while teaching or testing specific behaviors. However, as Billingsley and Liberty (1982) mentioned teachers can master these skills and usually with some practice the arguments over the difficulties with the process begin to subside.

In collecting rate data the task may be presented somewhat differently than in collection of accuracy data. For example, the teacher has a stopwatch in hand and instructs the student to 'count to five' when the student reaches five, the instructor says 'okay, again' and the student counts to five for a minute or perhaps a 30 second probe. Teachers may have to collect what has been referred to as 'adjusted' or 'interrupted' rate data. A good discussion of this procedure can be found in the article by Billingsley and Liberty (1982). Basically the procedure involves timing only the rate of responding during the performance of the particular response. The teacher would use a stopwatch and time the response, stopping the watch when the response is completed. For tasks where complicated modeling or instructions are needed this may be a useful technique. For example, if I were training students to do sit-ups I might model a sit-up and then say, 'your turn' and begin timing until I had a 1 or 2 minute probe, stopping the watch as necessary to give additional instructions.

The questions become then, if rate data are more difficult to collect, why do it?, and, is it worth the effort? It may be well worth the effort for several reasons. First, it appears that a positive relationship exists between an adequate rate of performance and task mastery; most teachers agree that students who perform a task quickly and accurately demonstrate several advantages over students who are slow but accurate. The use of piece-work pay is a good example of this advantage; those who work faster earn more money.

Beatrice Barrett suggests that we must be careful that we have not set 'retarded norms,' that fluency of response may be a critical variable that differentiates the handicapped from non-handicapped person. Consider tasks such as talking, taking off coat, eating, etc. To 'look' normal, rate as well as accuracy must be considered. Owen White ( ), in several discussions, has also presented the concept of the topography of the behavior, i.e., does behavior 'look different' when it is performed at various rates? Consider a person sorting blocks at 40 per minute versus 20 per minute or 10 per minute. If a person at 10 a minute the odds are that the sorting behaviors will appear quite different from a person sorting at a higher rate. Interruptions in performance and pauses often change the physical characteristics of the behavior. So the question becomes, "are we

really even dealing with the same behavior if the rate is very different?" White and Haring (1980) also discuss critical effects of a response. Rate could influence the critical effect, for example, speaking too slowly may cause the listener to be bored.

Another reason for considering rate is that by collecting information on rates of performance, we as professionals will be in a better position to judge the relative merits of that data, i.e., is it worth the bother? We may discover that collection of rate data is only critical for certain sorts of tasks or at certain points in the learning process. One of the old arguments that teachers have used to avoid collecting rate data is that, severely handicapped students are in the "acquisition phase"; that is, they are just acquiring a skill so that rate is not really critical for them. When in fact many students are actually in the fluency building stage, where it may be important to collect rate data. Additionally, the relative importance of rate data in the acquisition phase has not been discounted.

Rate data, even during the acquisition phase, need to be collected. The field of special education needs information on the range of acquisition rates with severely handicapped students. One way to collect such rate data is to start with a task analysis/task log approach. As difficulties are encountered various steps could be isolated and rate dat. collected only for those steps. For example, with belt fastening the step of "tightening the belt to the appropriate place" could be isolated and a 30 second or 1 minute probe given just for that step.

Of course one of the factors which makes collection of rate data and analysis of that data more difficult with this population is that standards for mastery will have to vary to account for differences in physical capabilities. Persons with mild, moderate, and severe physical involvement may require different desired rates or aims. Professionals need to decide how to handle this issue; however, differentiating criterion for varying levels of severity or physical impairment may be one way to approach the problem. Perhaps different mastery standards for "mildly, moderately and severely physically involved" can be developed.

Performance Data

Locating rate data on performances of moderately and severely handicapped persons was a somewhat difficult task. As I mentioned earlier the data was collected from various sources across the country over the past ten years.

For purposes of comparison and discussion I have divided these data into three catagories: "say", "write", and "do" performances. Figure 4 presents data from Barrett's comparison of performance rates for state school retarded students ages 12-54, public school non-handicapped students ages 5-7, and nonretarded adults. It is interesting to note that the performance of nonretarded adults is consistently higher than other groups and that the performance of handicapped students is consistently lower than for the other groups. Additionally, there is typically little overlap in the range of performance for the three groups. For Barrett's tasks, the handicapped students performed in the range of 20-90 responses per minute. Their performance on the labeling tasks ranged from 20-50 responses per minute and the performance on rote counting ranged from 20-90 numbers per minute.

Reference Notes

1. Halley, S. Personal Communication. Great Falls Precision Teaching Project. March, 1983.

2. Reavis, K., Rae, M., and Johnson, Y. Norfolk Early Education for Handicapped Children: Preschool Model, Assessment Packet. Norfolk, Va., mineographed paper, 1979.

References

Barrett, B. Communitization and the measured message of normal behavior, in R. York and E. Edgar (Eds.), Teaching The Severely Handicapped, Vol. IV. Seattle: American Association for the Education of the Severely/Profoundly Handicapped, 1978.

Billingsley, F. and Liberty, K., The use of time-based data in instructional programs for the severely handicapped, The Journal of The Association for the Severely Handicapped, 1982, 7, 1, 47-55.

Brown, F., Holvoet, J., and Guess, D., and Mulligan, M. The individualized curriculum sequencing model (III): small group instruction. The Journal of the Association for the Severely Handicapped, 1980, 5, 4, 352-367.

Haring, N., Liberty, K., and White, O. An investigation of phases of learning and facilitating instructional events for the severely/profoundly handicapped. Final Project Report. College of Education, University of Washington, Seattle, 1981.

Fredricks, B., Baldwin, V.L., and Moore, W. A Data Based Classroom for Moderately and Severely Handicapped. Monmouth: Instructional Development Corp., 1975.

Robbins, C.L. Learning in an early intervention preschool. Journal of Precision Teaching, Vol. III, 2, 1982.

Stroble, M.E., and Deshazer, Mr. and Mrs., Together we can do it - we proved it. Journal of Precision Teaching, Vol. III, 2, 1982.

White, O. Child Assessment in B. Wilcox and R. York, (Eds.), Quality of Education for the Severely Handicapped, Washington, D.C., U.S. Department of Education, Office of Special Education, 1982.

BEST COPY AVAILABLE

"SELF ABUSIVE - SELF STIMULATORY BEHAVIOR DECELERATION - TRIAL AND ERROR"

Kris McFadyean, Area Manager, and Doryne Nelson, Senior Instructor

Billings Training Industries

It is not unusual for the retarded and autistic individuals to exhibit self-injurious and stereotypic self-stimulatory behavior. Self-injurious behavior, defined as physical abuse toward oneself, ranges from head-banging, self-hitting, and eye-poking to pinching and scratching. Self-stimulatory behavior, defined as behavior that appears to be non-functional and is often repetitive, is seen in activities, such as head-weaving, body-rocking, and hand-flapping.

Over the past two decades the professional literature has discussed the problems of self-injurious and self-stimulatory behavior and the use of behavior modification procedures for effective elimination of such behaviors. (Bachman, 1978; Frankel and Simons, 1976; Johnson and Baumeister, 1978; Schroeder, Schroeder, Smith and Dalldorb, 1978).

Mixed findings have resulted. Some have found success using reinforcement of incompatible behaviors (DRI/DRO) (Allen and Harris, 1966; Frankel, Moss, Schofield and Simmons, 1976; Lovaas, Fritag, Gold, and Kassorla, 1965). Others have reported poor results (Corte, Wolf and Locke, 1971; Measel and Affieri, 1976; Young and Wincze, 1974). Extinction procedures have had mixed results, as have overcorrection and timeout procedures (Jones, Simmons, and Frankel, 1974; Lovaas and Simons, 1969; Corte et al., 1971; Myers, 1975; Adams, Klinge, and Keiser, 1973; Solmeck, Rincover, Peterson, 1977; Azrin, Gottlieb, Hughart, Wesolowski, and Rahn, 1975; Fox and Martin, 1975; Measel and Alfieri, 1976).

Method

Setting

The setting was a work activity center. The center employed 7 trainers. These trainers were responsible for thirty-three (33) clients for six hours a day, five days a week.

Subject

The client came to the work activity center at the age of 21 from the public school system in 1978. He had a history of hand-biting, headrocking, and finger-flicking behaviors. The client was identified as being profoundly retarded. Conversation with his parents state that he exhibited face-hitting behavior as a toddler, sometimes so severe that a nosebleed would result.

Within the setting the client learned simple self-care and prevocational skills. As early as August of 1978, the incidence of head throws and hand bites were high enough to begin a clinical training session. Throughout the 35 days of training, two staff members used differential reinforcement and required work on a simple task to decrease these behaviors. As the training situation took much staff time and had little carryover to the rest of the training day the program was ineffective and therefore discontinued.

Over the next five years, the client exhibited handbites, headthrows, and faceslaps as well as finger flicks. These were ignored, tolerated, and punished by staff members with little consistency, therefore, little result. During the summer of 1982 the incidence of slaps, headthrows, and bites increased, both in occurrence and intensity. A formal deceleration program to control these behaviors was developed.

Procedure

A baseline of the total number of headthrows, hand bites, and face slaps was completed. Data was taken across formal training situations, activities of the client's choice and during freetime. This data reflected periods under positive work contingent reinforcement conditions and without. The baseline identified reinforcers used and which situations yielded the most behaviors. (See Table 1.)

To determine an intervention plan the following four points were considered: (1) whether the behaviors were self abusive or self-stimulatory; (2) the least restrictive technique as mandated by State of Montana policy; (3) reinforcers effective for the client; and, (4) an efficient way to treat the behavior with limited staff.

Throughout all of the interventions, efficient use of staff time was a major concern. The basic skills area, the clients class, consisted of 7 clients and 2 trainers. During the course of this presentation, we will be showing staff time changes.

Results

On July 29, 1982, the staff began DRI intervention. This was initiated on a five hour-a-day basis. One staff member recorded the number of slaps, bites, and headtrows, while the other staff member reinforced appropriate work behavior, counting each contact and moving away when any of the three specified behaviors occurred. Totals for the combined behavior are as listed: Day 1 - 831, day 2 - 486, day 3 - 1,560, day 4 - 1,329, and day 5 - 1,578.

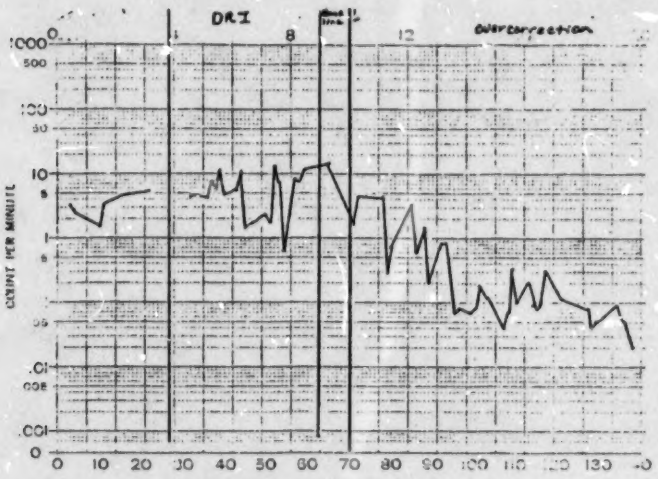
At the end of a week, it was decided to change the program to 1 hour of DRI intervention and three hours of extinction. Data was taken during the total 4 hours. Decision to make this change was based on the facts: (1) no progress on the initial intervention; (2) few opportunities occurred to reinforce the client during DRI; (3) based on data, it was felt that the procedure was too intense for the client; and (4) the staff felt the intervention was too time consuming for the progress noted.

After seven data days the program was changed to include two separate half-hour sessions, and extinction data was taken for four hours. Two separate DRI sessions yielded better results, and more half-hour sessions were added for generalization purposes.

BEST COPY AVAILABLE

Data indicated DRI was not effective. Based on the data and a return to baseline on August 31, staff felt that a more restrictive technique was needed to eliminate the out-of-control behavior. Overcorrection, or reinforcing outward-directed behavior specific in nature to the self-stimulation was the technique chosen. An Individual Habilitation Planning meeting and Regional approval of the deceleration program were secured. Overcorrection was started on the slaps only The slaps were the most frequent of the three behaviors and the highest in intensity The body rocks (head throws) and bites were linked together; and it was decided that they would be dealt with after the initial procedure. (See Table 1.)

Table 1
Number of slaps, bites and head throws



During a 90-minute classroom setting behavioral data were collected on the number of slaps, bites, headthrows, and reinforcement. The overcorrection procedure, for slaps only, showed a decrease in the headthrow and bites from the baseline and DRI data. Graduations were as follows: Phase I (20 FMT), graduated 9-27-82; Phase II (16 FMT), graduated 9-28-82; Phase III (12 FMT), graduated 9-29-82; Phase IV (8 FMT), graduated 10-5-82. After a two-week vacation the client returned to a total five-hour day using the overcorrection procedure on slaps at Phase V (slaps) and Phase I (8FMT) for headthrows (see procedure 2). The procedure for headthrows also reinforced incompatible outward-directed behavior that was similar to, but not identical to, the procedure for slaps. Number of positive contacts and bites were counted and recorded daily.

The 90-minute classroom overcorrection demonstrated progress, but the frequency and intensity of the behaviors were increasing during the 270-minute nonclassroom time. This was changed to overcorrection during the entire day with four 15-minute periods away from trainers in an isolated classroom. This gave the client and trainers time away from each other. The client made the following progress for slaps: Phase V (4 FMT), graduated 12-6-82; Phase VI (verbal training), graduated 12-7-82; and for headthrows: Phase I (8 FMT), graduated 10-25-82; Phase II (6 FMT), graduated 11-2-82; Phase IIB (5 FMT), graduated 12-10-82; Phase III (4 FMT), graduated 3-1-82. The client required much 1:1 reinforcement during this period of success. December 9 trainers moved to a more normal reward situation. At the same high rate, trainers would deliver the positive contacts, but rather than sit next to him, they would stand or walk up to him to deliver the rewards. December 12 the overcorrection for the bites was implemented. This procedure was identified to that implemented for slaps.

This overcorrection procedure for the three specified behaviors had the important component of on-going generalization. The final phase or graduation from any of the procedures was a verbal warning. Following the first slap, headthrow or bite, a verbal warning was given. "_____, you don't use your hand (body) like that." That command was always given before a functional movement training (FMT). FMT was administered only if the client failed to stop or if he did an additional slap, body rock or bite during the day.

Positive contacts have decreased to a slightly higher than average ratio for his area during the day. The client continued to make progress. He remained on verbal warning for the slaps and bites. As of March 3 he had two consecutive days with no slaps, headthrows or bites. Comparative to baseline date, his progress is six months was remarkable.

Conclusions

Consistent procedure and data collection by the client's immediate trainers and other staff members, as well as many hours of graphing, conferences, and correspondence by the Senior Instructor and Area Manager of Billings Training Industries, paid off in a significant decrease in self-abusive, self-stimulatory behaviors.

References

Azrin, N.H., Kaplan, S.J., and Foxx, R.M. Autism reversal: eliminating stereotyped self-stimulation of retarded individuals. American Journal of Mental Deficiency, 1973, 78, (3), 241-248.

Cataldo, M.F. and Harris, J. The biological basis for self-injury in the mentally retarded. Analysis and Intervention in Developmental Disabilities, 1982, 2, 21-39

Foxx, R.M, and Azrin, N.H. The elimination of self-stimulatory behavior by overcorrection. Journal of Applied Behavior Analysis, 1973, 1, 1-14.

Iwata, B.A., Dorsey, M.F., Slifer, K.J., Bauman, K.E., and Richman, G.S. Toward a functional analysis of self-injury. Analysis and Intervention in Developmental Disabilities, 1982, 2, 3-20.

"DECELERATING ABUSIVE AND SELF-STIMULATORY BEHAVIORS WHILE SIMULTANEOUSLY ACCELERATING 'ON-TASK' BEHAVIORS[1]

Jan Rammer and Daniel M. McCarthy, Progress Incorporated

Helena, Montana

High rates of abusive and self-stimulatory behavior are incompatible with skill acquisition programming. Physically abusive behavior often results in physical injury to other people and usually disrupts the training environment. Self-stimulatory behavior, for example, breath-holding, may block the learner's hearing and prevent her from following verbal and/or visual directions. More important, when low rates of appropriate behavior combined high rates of inappropriate behavior forced the subject into an environment with minimal reinforcement and external stimulation.

Numerous behavior management techniques have been used to decelerate abusive behavior and self-stimulation. Some of the procedures include positive reinforcement, time-out, physical restraint, and overcorrection (Schroeder, Mutick, Schroeder, 1979). Some research indicates that learning occurs at a quicker rate when attending skills are in the subjects repetoire (Jenson, 1981; Schreibman and Koegal, 1981; Lovass, 1981).

The present study simultaneously attempted to increase pivotal skills (on task, direction following) and decrease self-stimulatory and abusive target behaviors. Brief periods of a head-down time out procedure followed every episode of abuse and breath-holding. High rates of reinforcement (praise, edibles, hugs and activities) reinforced appropriate single responses. This treatment was designed to increase the subjects repertoire of appropriate behaviors and to have a positive effect on the subjects social skills.

Method

Subject

The subject was a twenty-year old profoundly retarded woman. The subject had lived in a community-based intensive training group home for two years. Previously she was institutionalized for eleven years. She demonstrated no verbal language, although she had minimal receptive language. Her maladaptive behaviors included physical abuse to herself, other people, objects, as well as frequent, brief periods of breath-holding.

Setting

The setting was a classroom in an intensive training day center. The subject was involved in structured time for approximately 180 minutes per day and unstructured free time approximately 100 minutes. The training environment (structured periods) concentrated on attending skills, receptive language training, motor imitation and sign language training programs. Training sessions involved a pair of subjects and one trainer. The subjects and trainer seated facing each other, no table separated them. The six daily sessions lasted 25-30 minutes each.

Procedure

Skill Acquisition. Different contingencies were applied during structured periods and unstructured periods. During structured periods the subject was presented with a variety of training stimuli, each preceded by the command, "(name,) hands down, look". Correct responses were followed with immediate and enthusiastic specific praise (e.g., "Great, you're looking at me, nice hands down"), an edible reinforcer, (e.g., milk, potato chip, cheese), physical contact, and intermittently a book to leaf through.

Incorrect responses were consequated with an immediate "No" in a firm but neutral tone. The trainer then turned away from the subject and interacted with the other subject. Contact was made with each of the two subjects once every 30 seconds. Occassionally, a type of corrective feedback was delivered for an incorrect response following a "no" statement from the trainer. Corrective feedback consisted of physically guiding the correct responses with little or no verbal interactions.

When the subject achieved criterion levels of attending behavior, more complex training began. The command, "(name), hands down, look" always preceded other training stimuli. These stimuli were manual signs ("eat"), receptive commands ("stand up"), or modeled, imitative stimuli.

Deceleration of Inappropriate Behavior. During skill acquisition trainer consequated each episode of abuse and breath-holding. Contingent upon the occurrence of abuse, restraint time-out was implemented. The trainer immediately: (1) stated "No", and identified the inappropriate behavior in a firm but neutral tone, (i.e., "No hitting," "No kicking"), (2) prompted (if necessary) the subject to a sitting position in a chair; (3) crossed the subjects arms over her stomach area, holding her at each wrist, and (4) gently bent her at the waist. The trainer kept her in this position by applying pressure to her back between her shoulder blades with a shoulder, keeping hold of her wrist. The degree of pressure was directly proportioned to the degree of resistance. Contingent upon the absence of screaming, vocalization, or resistance (movement in opposition to the pressure being applied by the trainer), the trainer relaxed the amount of restraint. This restraint ended after 30 seconds of relaxation. If the subject did not meet the exit criterion she was released from the restraint time-out from the physical restraint time-out after a 10 minutes duration period.

If breath-holding occurred just prior to or during a training trial, the head-down time-out was implemented. The trainer stated "No" in a firm but neutral tone. The trainer then physically guided the subject to bend at the wrist by placing their hand between her shoulder blades. The difference between restraint time-out and head-down time-out was control of the subject's arms. During restraint time-out the subject's arms were crossed and rested under her torso. During head-down time-out her arms were not restricted. The subject maintained this position until exhaling had occurred or until 10 seconds lapsed.

BEST COPY AVAILABLE

Response Definitions

Abuse. The subject threw objects at people and onto the floor. She pulled objects from shelves, ripped pages from books, and pulled coats from hangers, hit other people with her hand and hit other people with objects held in her hands.

Throwing. The subject twisted or rotated her arm/wrist such that an object released from her hand became airborne.

Hitting, punching, scratching, and smacking. The subject's finger/hand/arm came in contact with another person's body. Hitting was direct physical contact which: (1) injured the victim, (2) distressed the victim, (3) left visible marks on the victim, or (4) was audible to a trainer.

Ripping. Using hand/hands to tear an object was classified as ripping.

Pushing and pulling objects. Pushing over tables and chairs, pulling coats from hangers, and pushing or pulling objects from shelves or tables were targeted. Responses which uprooted objects and failed to lead to appropriate use of that object.

Breath-holding. Breathholding consisted of (1) dropping her head back, (2) drawing air into her lungs, (3) opening her mouth and protruding her tongue, and (4) holding her hands quietly. The duration of each episode varied from 10 to 40 seconds. Episodes of giggling, loud laughter, rocking, hitting or slapping self, others, or objects sometimes followed breath-holding. Bruxism, hyperventilation, tongue thrusting, vocalization, and thigh rubbing sometimes preceded breath-holding.

On-task. A set of interrelated behaviors were collectively defined as on-task. These were: (1) Sitting in a chair (buttocks in contact with chair, back in contact with back of chair), (2) Hands down (slight movement acceptable, any part of hand in contact with leg between waist and knees), and (3) Eye contact (eye to eye contact between trainer and subject maintained for at least two seconds.

Data Collection

During baseline periods, trainers recorded the number of times the subject emitted any of the targeted behaviors identified in the treatment plan. Frequencies were summed as rate per minute for both structured and unstructured periods were temporarily discontinued. Brief periods of data collection during unstructured time was re-implemented.

Reliability

Two trainers achieved at least 95% agreement on the rate of occurrences of the targeted behaviors. Reliability checks were conducted at least once per month.

During structured periods formal training on attending skills occurred. Trainers recorded correct and incorrect responses trial by trial. Data were summed and graphed per data day as a percentage correct (number correct divided by total trials times 100).

Experimental Design

Rates of abuse and breath-holding were observed during both structured and unstructured periods. Rates of "on-task" were observed during structured periods only. The intervention plan was implemented only during the structured time condition. Structured time was chosen for the initial intervention because: (1) the abuse behavior in this condition was usually directed towards persons, rather than towards objects; (2) the targeted behaviors were clearly inhibiting skill acquisition programming; and (3) the skill training program maintained a stable, highly reinforcing environment which maintained previously defined appropriate behaviors incompatible with abuse and breath-holding. Because the environmental conditions and reinforcement contingencies differed between conditions, the structured and unstructured conditions formed a multiple schedule. Data examined effects appearing in both treated and untreated conditions.

Results

A summary of abusive behavior is presented in Figure 2. Baseline conditions lasted 36 data days. The range of abusive behavior during this period was 75 per day to 0 per day. Intervention techniques show rapid deceleration of abusive behavior. Follow up studies have demonstrated three occurrences per day. A summary of 'on-task' behavior is presented in Figure 3. At the time intervention was implemented for abusive behavior, rates of 'on-task' behavior were consistant. Criterion levels called for a decrease in prompt levels (e.g., degree of prompt necessary to evoke correct responses). Follow up data reveals 'on-task' responses averaged 80% per day. The data summary presented in Figure 4 for breath-holding behavior indicates baseline levels ranged from 75 to 18 per day for a 6 day period. Intervention produced, after 21 days, an average of 7 breath-holding occurrences per day. Advancement of criterion from a light prompt to no prompts with the 'on-task' program indicated mastery of attending skills.

Discussion

The data indicate consequating disruptive behavior with time-out while simultaneously reinforcing appropriate incompatible behaviors is a successful treatment. When using aversive procedures, the subject must be taught alternative responses to replace the undesirable behavior (Azrin and Holz, 1966; Smoler, 1971). The lack of such alternatives may account for a number of failures to suppress undesirable behaviors. Hence a repetoire of appropriate responses may be developed with the subject. Apparent suppression has been demonstrated in this study by consequating inappropriate behaviors. Rates of inappropriate behaviors remain variable but at a much lower rate than during baseline. A new skill that has been acquired is totally incompatible with the targeted responses.

Further investigation should focus upon (1) an attempt to intervene targeted responses across time (structured and unstructured) may have an effect which warrants further research; (2) the acquisition of appropriate social skills during constructed periods, and (3) the exploration of the use of enriched environments (Horner, 1980), (appropriate play skills and increased social skills).

BEST COPY AVAILABLE

"ACCOUNTABILITY AND DECISION MAKING USING

SINGLE SUBJECT RESEARCH DESIGNS IN APPLIED SETTINGS"

Ace Cossairt, Associate Professor; John Stellern, Professor; James Jacobs, Associate Professor; Mike Marlowe, Assistant Professor; Special Education, University of Wyoming

This paper is addressed primarily to professionals, para-professionals and educators charged with the care and the training of children and youth with behavior disorders and autism. It is designed as a reference which can be consulted by social workers, counselors and therapists who wish to verify the effects of their treatment plans.

Statistical analysis of the effects of therapies on relatively large numbers of subjects has long been a researcher's primary course of action. In the past, this "mind set", may have prevented professionals working with individuals or small numbers of retarded, autistic or disturbed subjects from verifying and sharing invaluable treatment methods with others who desperately need such information.

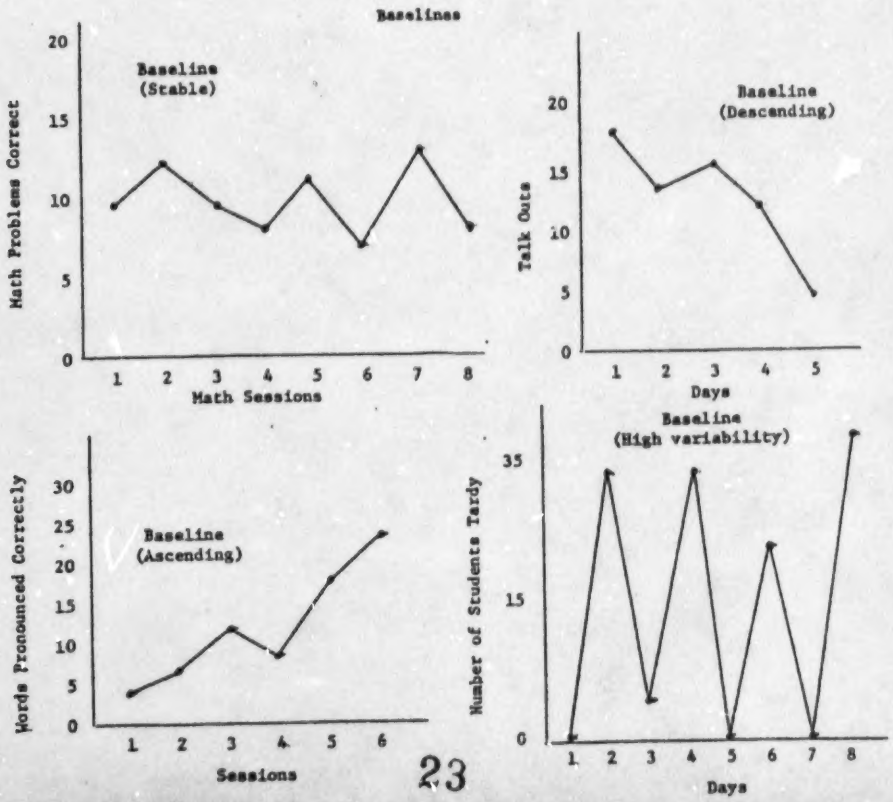
Accountability and law governing schools, agencies, and institutions make it imperative to verify intervention or treatment effects through some type of research design. The single subject design would seem to be the logical type design to use for these verifications because of its emphasis on the individual. Many of the new accountability laws require attention to individual differences. Treatment facilities which do not meet accountability requirements may be doomed to fail even though they may be excellent services if they cannot prove their worth.

This paper will describe three single subject designs which demonstrate reliable verification behavior changes allowing for more appropriate programming. Baer, Wolf and Risley (1968) indicated the purpose of using applied behavior analysis research designs was to empirically investigate the causal factors which effect behaviors society considers important. These designs are the reversal design, multiple baseline design and changing criterion design. They will be described in detail providing the pros and cons of each in order to allow the practitioner to choose or develop designs that best meet their needs. The logic behind the research designs can probably best be explained by first discussing baselines and the simple AB design followed by more detailed attention to the single subject designs themselves. Illustrations are included to provide more concrete examples of how these designs may be used.

Baselines - Pre-Intervention Levels

Stable subject baselines require a continuum of repeated measures of a target behavior for a sufficient period of time until a pre-experimental steady state is attained (Sidman 1960). Sidman (1960) emphasized the importance of the stable baselines in his statement, ". . . stability is the first requirement of a baseline." Risley and Baer (1973) indicated that the stable baseline " . . . provides a basis for predicting what the level of behavior would have been in the future, had experimental conditions not been introduced." ( ) After the stable baseline has been achieved and while repeated measures continue, and experimental variable is introduced providing a simple demonstration of behavior change indicated by the deviation from the levels predicted by the pre-intervention.

ILLUSTRATION 1



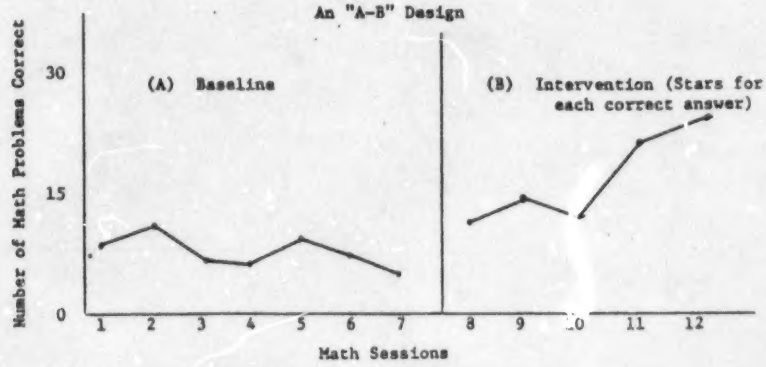
A-B Design

This design is referred to as an A-B design with the A indicating baseline conditions and B indicating the experimental treatment conditions. Results of A-B designs are sometimes criticized as only correlational with treatment conditions (Reith, Note 1). Because of a single manipulation of the independent variable, changes may be ascribed to various coincidental variables such as abrupt meteorological fluctuations or maturation and regression factors.

While this A-B design has been described as a weak (Risley and Wolf, 1972) or a quasi-experimental design (Campbell and Stanley 1966), it provides the basic tactic utilized in both the reversal and multiple baseline designs. According to Sidman (1960), the reliability of experimental intervention data is usually based on whether or not the treatment will produce the same results when repeatedly applied (i.e., replication). Therefore, systematic replication of this A-B design should empirically demonstrate a greater degree of control for coincidental factors. Illustration 2 is an example of an "A-B" design.

Illustration 2

An "A-B" Design

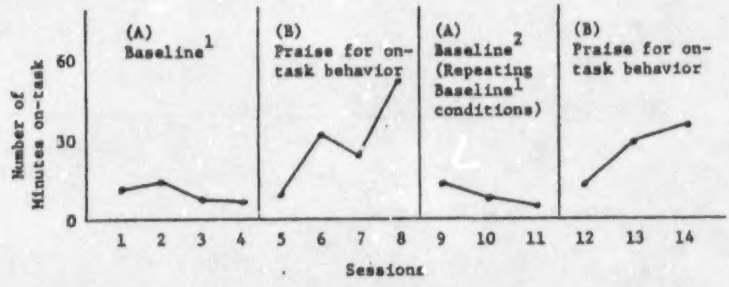


Reversal or ABAB design

The reversal technique is by far the most popular and often used single subject design. This design utilizes the classic A-B design paradigm but extends and strengthens it by replicating both the original baseline and treatment conditions (e.g., ABAB, see illustration 3).

Illustration 3

A Reversal or "ABAB" Design



Within this design the second A or baseline serves two functions: (1) to verify through a return to baseline conditions that the experimental procedure actually was responsible for the behavior change, and (2) to demonstrate that the first A was a true forecast of the operant level of behavior. By subsequently reinstating the second B or experimental condition, the researcher further demonstrates causality by systematically replicating the independent variable's effect on the dependent variable. This provides reliability of data through replication as called for by Sidman (1960). Ostensibly this AB replication could be carried even further (i.e., ABABAB) to provide even more confidence in the effects of the experimental procedure.

There are several disadvantages that may limit the usability of the reversal design: (1) the target behavior may not reverse or many only partially reverse (i.e., subjects may contact naturally occurring variables not under the control of the experimenter which are contingent upon the performance of the behavior). (2) Some researchers criticize the reversal design with regard to "multiple treatment inference" in that the initial treatment (i.e., the first "B") is not erasable and may have an effect on the second "B". (3) It may not be desirable to reverse the improved level of the target behavior (i.e., the reversal may be detrimental to the subject's health as in self-mutilation cases in mental health insitutions). (4) Persons in charge of the subject (i.e., teachers, hospital attendants or administrators) may not allow the researcher to reverse recently demonstrated therapeutic gains. (5) In some cases it may be vital for mediators in control of reinforcement contingencies to maintain a consistent pattern of "trust" with targeted individuals. All five disadvantages stem from a necessity to use intra-subject treatment and baseline replications to prove causality, (e.g., "A-B" design).

Multiple Baseline Design

In contrast to the ABAB design a multiple baseline is not encumbered by the reversal design disadvantages discussed above and provides a viable alternative to the classic ABAB technique, especially when a return to baseline is not feasible. The multiple baseline elaborates on the basic AB verification technique, but does so without incorporating intra-subject reversals.

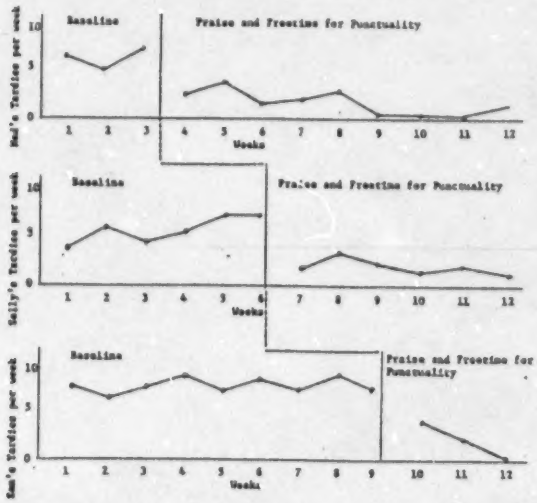
When utilizing multiple baseline techniques, the experimenter simultaneously records two or more baselines (i.e., two or more target behaviors) over a period of time to provide a basis for future comparison. Risley and Baer (1973) indicated that after concurrent baselines are obtained, experimental procedures are applied first to only one of the behaviors. Any deviation in the level of this behavior is compared with the level forecasted for that behavior from the baseline measures. Accuracy of the forecast is evaluated by comparing it with the other continuing baseline measures. If in fact the other behavior has remained constant, the baseline forecast of the first behavior is supported. Subsequently, at different points in time, experimental procedures are applied to each of the remaining behaviors. If each of the remaining baseline levels change in a similar fashion at the point of the experimental procedure's application, scientific verification through replication of effect is demonstrated. The multiple baseline technique is more versatile than the reversal design because within an experiment it can be employed across (1) the same subject and setting but different behaviors, (2) the same subject and behavior but different settings, or (3) the same behavior and setting but different subjects. (see Illustrations 4,5, and 6). There are three other disadvantages of the multiple baseline design which the reversal design does not include. First, the possibility exists of induction or generalization of treatment effects across baselines (i.e., experimental procedures applied to one behavior may effect changes in the other still-in-baseline behaviors). Secondly, difficulties arise in selection intra- or inter-subject behaviors which effected by the same independent variable. The third disadvantage of the multiple baseline design is that teachers, attendants, and administrators often do not want subsequent subjects of behaviors continued in baseline after effective treatment has been applied to the initial target behavior. While more versatile, Risley and Baer (1973) point out that the multiple baseline is a weaker design than the reversal design because it involves an additional assumption that all measured behaviors are sensitive to the same experimental procedure. Specific replication is not accomplished with the multiple baseline design. In other words, experimental conditions are never applied to exactly the same combination of behavior, setting and subject more than once.

Discussion

Because of the inherent strengths and weaknesses of these research designs, continued efforts are needed to develop new designs or adapt and refine existing single subject designs. Hall (1971) has developed a changing criterion design which verifies the effects of shaping procedures. (See Illustration 4). Also, researchers have found it functional to conjointly implement the reversal and multiple baseline designs within a single experiment (Hall, Cristler, Cranston and Tucker 1970).

ILLUSTRATION 4

Inter-subject Multiple Baseline Verification



Succinctly stated, the major difference between the two classic single subject designs resides in their contrasting modes of replication (i.e., "intra" versus "inter" replication). The reversal design verifies through intra-subject replications, whereas the multiple baseline primarily verifies experimental effects in three ways: (1) inter- behavior replications within one subject, (2) inter- subject replications, and (3) inter-setting replications, (e.g., Inter-subject multiple baseline verification, see Illustration 4; Inter-setting multiple baseline verification, see Illustration 5; Inter-behavior multiple baseline verification, see Illustration 6).

Finally, it is important to note that the single subject design may be misnamed in that these designs are not really restricted to the study of single subjects. By simply treating a group as a single subject (i.e., measuring their behaviors as a single organism) these designs can be used to measure and verify treatment effects on groups such as entire classrooms. Likewise, it has been demonstrated that single subject research designs need not be used solely by researchers. Hall (1971) has shown that parents and teachers with minimal but appropriate training can effectively use these designs to verify the effects of their teaching or management methods. Thus, the single subject design provides a versatility which certainly is needed in our age of accountability.

BEST COPY AVAILABLE

Illustration 5

Inter-subject Multiple Baseline Verification

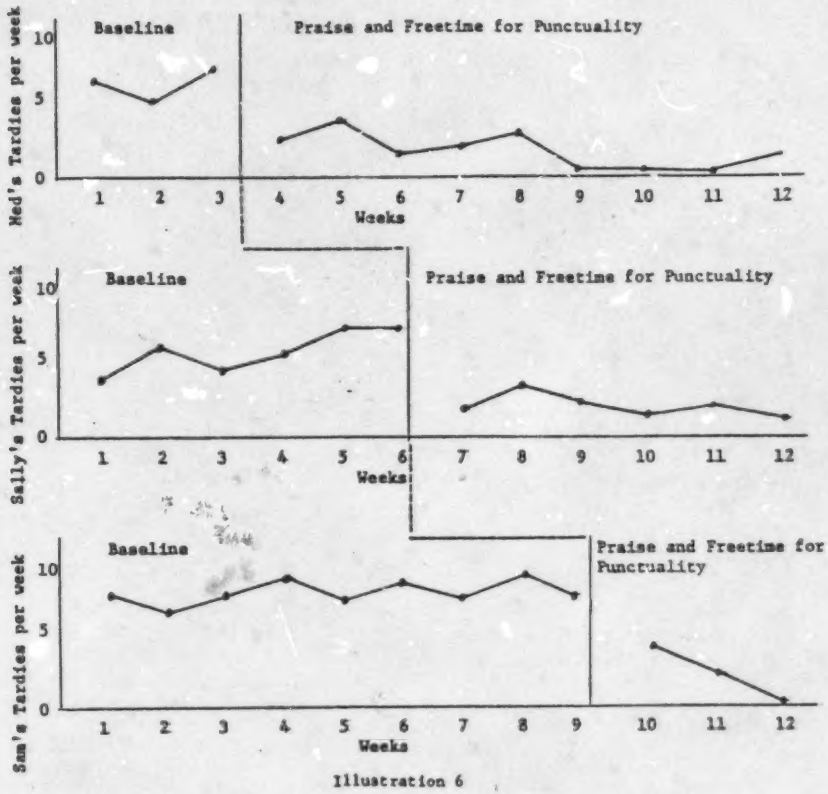
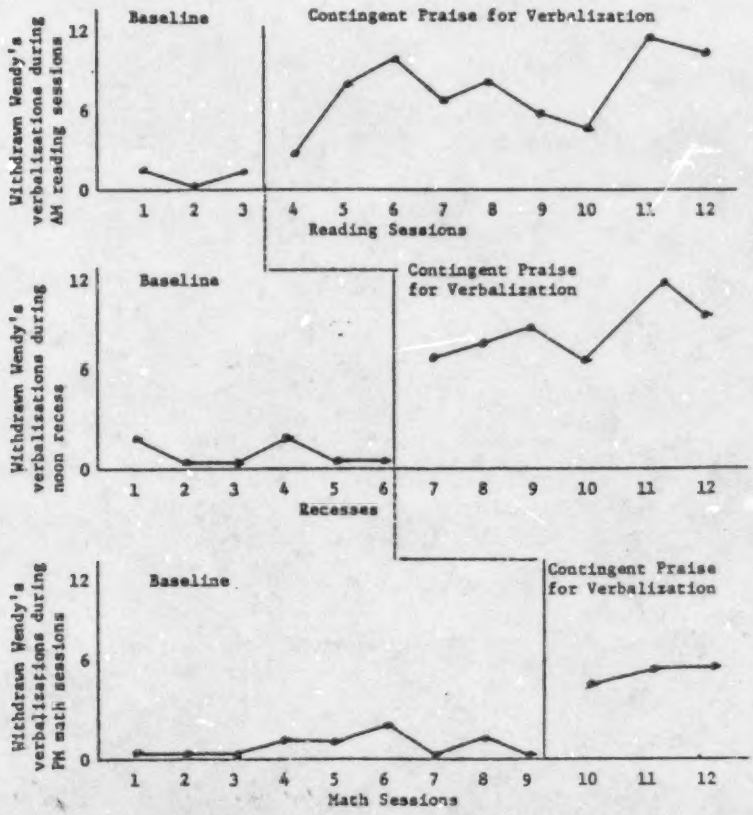


Illustration 6



Reference Notes

1. Reith, H.J. Experimental analysis of procedures used to modify the academic and attending behavior of students alternatively placed in regular and special education. Unpublished Dissertation, University of Kansas, 1971.

References

Baer, D.M., and Risley, T.R. Some current dimensions of applied behavior analysis. Journal of Applied Behavior Analysis, 1968, 1, 91-97.

Campbell, D.T. and Stanley, J.C. Experimental and quasi-experimental desings for research. Chicago: Rand McNally and Chicago, 1966.

Hall, R. Vance. Behavior Management Series: Part II Basic Principles, H & H Enterprises, Inc., Lawrence, Kansas, 1971.

Hall, R.V., Cristler, C., Cranston, S.S., and Tucker, B. "Teachers and parents as researchers using multiple baseline designs." Journal of Applied Behavior Analysis, 1970, 3, 247-255.

Risley, T.R., and Baer, D.M. Operant behavior modification: The deliberate development of behavior. Caldwell B.M. and Ricciuti (Eds.) Review of Child Development Research, vol. III. Chicago: University of Chicago, 1973.

Risley, T.R., and Wolf, M.M. Strategies for analyzing behavioral change over time. Nesselroade, J., Reese, J. (Eds.) Life-span developmental psychology: methodological issues. New York: Academic Press, 1972.

Sidman, M. Tactics of Scientific Research. New York: Basic Books, 1960.

BEST COPY AVAILABLE